Upper Touchet
Vegetation Management Project

Botanical resources report
and
Biological evaluation for plants

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Introduction

This botanical resources report and biological evaluation discusses the existing conditions (affected environment) of botanical resources, and also analyzes potential effects (effects analysis) from activities proposed by the Upper Touchet Vegetation Management Project to botanical resources. The botanical resources analyzed include:

1. Federally listed, proposed, and candidates for federal listing under the Endangered Species Act of 1973, as amended (93-2015, 1973).
2. Vascular plants, non-vascular plants (mosses and liverworts), and lichen species (USDA Forest Service, 2019). These species are collectively called sensitive plants.

Project proposal and area description

The Upper Touchet Project consists of forest land management activities that are intended to protect values at risk at the Ski Bluewood Resort and other recreation facilities. Approximately 3,120 acres will be subjected to vegetative treatment projects.

The Upper Touchet project planning area is on the Walla Walla Ranger District of the Umatilla National Forest, 20 miles south of Dayton, Washington. The project areas is within the Upper North Fork Touchet sub- watershed. The legal location includes T7, R 39E S12, 13 & R40E S2, 3, 7, 8, 17, 18, 19, 20 (all Willamette meridian). The analysis area encompasses approximately 4,450 acres of national forest system lands (including 1,480 acres within the boundary of Ski Bluewood Resort). The altitude varies from 3,700 feet where the Touchet River leaves the northern portion of the project area, to 5,700 feet along the 46 road on the southern boundary.

For details of the project area and proposed activities, see the associated environmental analysis and the discussions in the effects analysis portion of this report.

Relevant laws, regulations, and policy

Umatilla National Forest land and resource management plan

The Umatilla National Forest land and resource management plan (Region 6, 1990) outlines plan components that include goals, objectives, desired future conditions, and standards and guidelines for all resources. The pertinent sections for botanical resources are listed here. These plan components apply to all alternatives.

Biological diversity and rare plants

Goals:

Forest Management Goal 11: Maintain or improve habitats for all threatened or endangered plant and animal species on the Forest, and manage habitats for all sensitive species to prevent the species from becoming threatened or endangered (page 4-2).

Forest Management Goal 13: Provide for a diversity of plant and animal communities and species consistent with overall multiple-use objectives. Maintain or enhance ecosystem functions to provide for the long-term integrity (stability) and productivity of biological communities (p 4-2).

Desired future conditions:

Threatened, endangered, and sensitive species: All management activities recognize and will be responsive to the requirements of the Endangered Species Act: Surveys for threatened,

endangered, and sensitive plants will essentially be completed (within the next 15years), lists will be revised, and management plans will protect and enhance identified plants. Federal and regional lists (T&E) will continue to change. Surveys will probably document large numbers of some plants and will result in those species being removed from the lists; other species will probably be located for the first time and will be added. The number of botanical areas on the Forest can be expected to increase slightly as new unique areas are found during sensitive plant surveys (p 4-7).

Objectives:

Threatened, endangered, sensitive plant and animal species: There are no known federally listed threatened or endangered plant species on the forest (NOTE: This has changed, Spalding's catchfly is now listed under ESA as threatened). Twenty-two plant species found on the Forest have been listed on the Region 6 Sensitive plant list (Note, this number has also now changed). Before a project is initiated, inventories for populations and distribution of threatened, endangered, and sensitive species will be conducted on a priority basis. Biological evaluations will be prepared. Each inventory will list all plant species found in the survey area. Previously surveyed areas can be checked for specie occurrence when the Federal and regional plan lists change (page 4-28).

Biological evaluation and any required surveys and inventories of all threatened, endangered, and sensitive species will be completed prior to all project activities to insure the protection and/or mitigation of all TES species (page 4-29)

The Forest will coordinate closely with the U.S. Fish and Wildlife Service concerning all proposed management activities that have the potential to impact threatened or endangered species. The Forest will participate in the recovery objectives for both bald eagles and peregrine falcons outlined in Chapter III of the FEIS (Note, also for Spalding's catchfly now that it has been added to the ESA list) (page 4-29).

Standards and guidelines for ecosystems and diversity (page 4-66):

1. Maintain native and desirable introduced or historic plant and animal species.
2. Provide or develop an ecologically sound distribution and abundance of plant and animal communities and species on the stand, basin, and forest levels.
3. Provide for all seral stages of terrestrial and aquatic plant associations in a distribution and abundance that meets the goal.
4. Meet standard and guideline requirements including vertical, horizontal, and species diversity shown in Timber, old growth/mature tree, dead and down tree, and big game habitats size, characteristics, and special locations described in Wildlife or specific management areas, such as habitat specifications for plants and wildlife identified in Threatened, Endangered, and Sensitive Species and Management Areas A9 and D2.
5. During project planning, site-specific management prescriptions should be developed and evaluated that meet objectives for biological diversity and ecosystem function. Project planning evaluations should consider use of minimum fragmentation approaches or clustered timber harvest design.
6. Reductions in diversity of plant and animal communities and tree species from that expected in a natural forest, or from that similar to the existing diversity in the planning area, may be prescribed to meet overall multiple-use objectives.
7. The introduction of plants will be assessed and controlled to meet management objective and to prevent any native species (or plant community) from becoming endangered or threatened.

8. Plant community ecology is sensitive to management changes. The communities will be monitored for diversity relative to successional stages and type conversions.
9. Identify, inventory, and provide for local, traditional Native American food and cultural plants.

Standards and guidelines for timber management species diversity

S&G #3: Special and unique ecological communities such as aspen and other hardwood stands, seeps, springs, bogs, and other riparian areas should receive special attention and protection from potentially damaging management activities. Silvicultural prescriptions will specifically address measures to protect, maintain, and enhance aspen and other hardwood clones, clumps, and stands (page 4-74).

Standards and guidelines for threatened, endangered, and sensitive species (pages 4-89 to 4-90)

Legal and biological requirements for the conservation of endangered, threatened and sensitive plants and animals will be met. All proposed projects that involve significant ground disturbance or have the potential to alter habitat of endangered, threatened or sensitive plant and animal species will be evaluated to determine if any of these species are present (FSM 2670 Threatened, Endangered and Sensitive Plants and Animals).

Where endangered or threatened species are present, the required biological assessment process will be carried out according to the requirements of the Endangered Species Act (Public Law 93-205); consultation requirements with USDI Fish and Wildlife Service and state agencies will be met. Before the project can be carried out, protection or mitigation requirements shall be specified (36 CFR 219.27(a) (8)). Habitat for existing federally classified threatened and endangered species will be managed and monitored to achieve objectives of recovery plans.

When sensitive species are present, a biological evaluation will be prepared. There must be no impacts to sensitive species without an analysis of the significance of adverse effects on its population, habitat, and on the viability of the species as a whole. For sensitive plant species, it may be helpful to consult with local knowledgeable and interested botanical authorities. Habitat for sensitive plants and animals will be managed to ensure that the species do not become threatened or endangered through Forest Service actions.

Species management guides will be prepared over the next 5years and will be used as strategies for ensuring that sensitive species do not become threatened or endangered or result in a loss of species viability.

Maintain and update lists of threatened, endangered, and sensitive plants and animals periodically as new information is collected….

The Forest and ranger districts will keep records and inventories of essential and critical habitats and their distribution. Inventories will include careful monitoring of the species and their habitats.

Collection of TES plant species will only be allowed under permit. The issuance of permits must be preceded by the same degree of assessment required for other projects.

Maintain contacts with Federal, state, and other agencies, groups, and individuals concerned with the management of TES species. The Oregon Department of Fish and Wildlife and the Washington Department of Wildlife will be consulted for technical information in development of species management guides and in determinations of viable population levels of sensitive species. Other contacts regarding sensitive species information will be with the Nature Conservancy's Oregon Natural Heritage Data Base and the Washington Natural Heritage Program

in order to maintain or periodically update the Forest T/E/S species list and assist in achieving state goals for conservation of endemic species.

Monitoring

For endangered, threatened and sensitive species, determine and monitor the status of populations and habitats and the strategies implemented for protection.

Special Plant Habitats

Standards and Guidelines for habitat:

Nongame wildlife habitat S&G #4: Cliffs, talus, and caves are recognized as relatively unique habitats of the Forest, and all potentially disturbing or altering management activities will be carefully evaluated on the ground during the planning process (page 4-57).

Nongame wildlife habitat S&G #5: Seeps, springs, bogs, wallows, and other wet areas…are inherently unique and will be evaluated on a project level basis for their value as wildlife habitat and to provide appropriate levels of protection (page 4-57).

Riparian and fish habitat S&G#5: Seeps, springs, bogs, and other wet areas, generally under 10 acres, are inherently unique and will be evaluated on a project level basis for their wildlife and other values and will be given appropriate levels of protection. Where needed, employ mitigation measures to protect unique vegetation, wildlife, and water related characteristics (page 4-59).

Federal laws

Endangered Species Act

The Endangered Species Act of 1973, as amended (93-2015, 1973) mandates all Federal departments and agencies to conserve listed species and to utilize their authorities in furtherance of the purposes of the ESA. Section 7(a) (2) directs all Federal agencies to insure that any action they authorize, fund, or carry-out does not jeopardize the continued existence of an endangered or threatened species or designated or proposed critical habitat.

National Environmental Policy Act

The National Environmental Policy Act of 1969 (Public Law 91-190, 1969) directs federal agencies to "... insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken" [40 CFR §1500.1(b)].

National Forest Management Act

The National Forest Management Act of 1976 (Public Law 94-588, 1976) reorganized, expanded and otherwise amended the Forest and Rangeland Renewable Resources Planning Act of 1974, which called for the management of renewable resources on national forest lands. NFMA requires the Secretary of Agriculture to assess forestlands, develop a management program based on multiple-use, sustained-yield principles, and implement a resource management plan for each unit of the National Forest System. It is the primary statute governing the administration of national forests.

Forest Service policy

Forest Service manual 2672.1 sensitive species management

Sensitive species of native plant and animal species must receive special management emphasis to ensure their viability and to preclude trends toward endangerment that would result in the need for Federal listing. There must be no impacts to sensitive species without an analysis of the

significance of adverse effects on the populations, its habitat, and on the viability of the species as a whole (USDA Forest Service, 2005).

Forest Service manual 2672.4: Biological evaluation process

The Forest Service shall review all planned, funded, executed, or permitted programs and activities for possible effects on endangered, threatened, proposed, and sensitive species. The biological evaluation is the means of conducting the review and of documenting the findings. Document the findings of the biological evaluation in the decision notice. Where decision notices are not prepared, document the findings in Forest Service files. The biological evaluation may be used or modified to satisfy consultation requirements for a biological assessment of construction projects requiring an EIS (USDA Forest Service, 2009).

The objectives of the biological evaluation process are:

1. To ensure that Forest Service actions do not contribute to loss of viability of any native or desired non-native plant, or contribute to a trend towards Federal listing of any species.
2. To comply with the portion of the Endangered Species Act that requires that actions of Federal agencies not jeopardize or adversely modify critical habitat of federally listed species.
3. To provide a process and standard by which to ensure that threatened, endangered, proposed, and sensitive species receive full consideration in the decision making process.

Region Six Biological Evaluation Process

In 2019, the Region Six Regional Forester clarified requirements for the timing of biological evaluations, species surveys and consultation in the National Environmental Policy Act process in a letter with two attachments (Casamassa, 2019). This letter states the following:

1. Prior to signing a decision notice and a finding of no significant impact, record of decision, or decision memo, an analysis for Regional Forester sensitive species must be completed following Forest Service manual direction.

2. If Endangered Species Act consultation is necessary, it should be initiated as early as possible in the National Environmental Policy Act (NEPA) process. ESA consultation, resulting in a letter of concurrence or a biological opinion from the Services, must be completed prior to sighing the decision document. Upon completion of the consultation, the deciding officer shall review and incorporate, the results of the consultation as part of the overall NEPA decision making process.

Attachment 1-Surveys for Regional Forester Sensitive Species clarifies the need for and timing of Regional Forester sensitive species surveys in relation to the NEPA decision. One portion of this attachment includes the following direction for Situations where species surveys may be conducted after the NEPA decision:

> Specialists conclude the proposed action would not cause a loss of species viability or a trend toward federal listing. Surveys after the decision would provide timely information on species presence during project layout and help refine mitigations to ensure ground disturbing activities do not cause a loss of viability. In this situation major project alterations would not be anticipated. It is essential that surveys are conducted as was assumed in the effects analysis and any project changes incurred as a result of post-decision surveys still support the sensitive species effects determinations (and other resource areas analyses) that informed the line officers' decision. It is also essential that assumptions and rationale for conducting surveys after the decision, but before ground-disturbing activities be clearly described in the line officer decision. Supplemental information including survey results need to be documented as part of the project record.

Forest Service manual 2070.2: Native Plant Material Policy

In 2008, the USDA Forest Service published a new native plant material policy in the Federal Register (USDA Forest Service, 2008). This policy includes the following:

1. Maintain, restore or rehabilitate native ecosystems so that they are self-sustaining, resistant to invasion by non-native invasive species and/or provide habitat for a broad range of species including, threatened, endangered, and rare species.
2. Maintain adequate protection for soil and water resources, through timely and effective revegetation of disturbed sites that could not be restored naturally.
3. Promote the use of native plant materials for the revegetation, rehabilitation and restoration of native ecosystems.
4. Promote the appropriate use and availability of both native and non-native plant materials.

Region Six revegetation policy

In 1994, Region Six of the US Forest Service implemented a policy to encourage the use of genetically appropriate native plant materials for all revegetation activities (USDA Forest Service, 1994). That policy states: Use local native plant species to meet management objectives. Follow appropriate seed and plant movement guidelines. Nonnative plant species may be used when: (1) needed to protect basic resource values (site productivity), (2) as an interim, non-persistent measure designed to aid in the re-establishment of native plants, or (3) local native plant species are not available.

Topics and issues addressed in this analysis

Purpose and need

Enhancement of botanical resources was not specifically identified as part of the purpose and need for the project.

Issues

No key issues regarding botanical resources were identified during scoping.

Resource indicators and measures

Enhancement of botanical resources was not identified as part of the purpose and need for the project, nor were botanical resource conditions identified as a key issue. Since virtually every habitat has potential to harbor one or more sensitive plant species, it is not useful to try to quantify sensitive plant habitat for analysis. For these reasons, the discussion of impacts to botanical resources are qualitative in nature. See the methods section, below, for an explanation of how the analysis was done.

Methodology

Threatened, endangered, proposed, candidate and sensitive plants

The Forest Service biological evaluation process was used to analyze potential effects to federally listed, proposed, and candidate species, and Forest Service designated sensitive plant species and their associated habitats. This report describes federally listed and sensitive plant species, and their habitats, that are documented, or that may potentially occur in the project area. For this report, these species are collectively referred to as sensitive plants. Project design features are part of all action alternatives were developed that should reduce potential impacts to known sensitive plant populations. They will also provide some protections to sensitive plant habitat.

The U.S. Fish and Wildlife Service has an online system to request species list for people to consider for their environmental analysis. This project was submitted via this method on March 27, 2019. A letter was generated that day that recommended species to consider (USFWS, 2019).

Potential direct, indirect, and cumulative effects of the alternatives on known sensitive plant populations, and potential sensitive plant habitat, are presented. Effects analysis determinations for federally listed species follows the implementing regulations of the Endangered Species Act. Effects analysis determinations for Forest Service sensitive species follow definitions as outlined in Forest Service Manual 2672.42. See the basis of effects determination below for details of the various effects calls.

Information sources

A pre-field review determined the probability that sensitive plant populations, and potential sensitive plant habitat, are located within, or adjacent to, the project planning area.

The following sources of information were used to determine which species, and their respective habitats, may occur within, or adjacent to, the project planning area:

- Region 6 Federal, Threatened, Endangered & Proposed Species and Sensitive Species Lists (USDA Forest Service, 2019)
- Interagency Special Status/Sensitive Species Program (ISSSP) website (BLM, 2014)
- USFS GIS mapping layers (vegetation, streams and wetlands, aerial imagery)
- Project GIS layers showing potential activity units
- USDI Fish and Wildlife Service IPaC website (USFWS, 2019). This was queried on March 27, 2019, to determine which federally listed and proposed species may be in the project area.
- Forest Service Natural Resource Manager database. This includes information on where botanical surveys have been done, and information on sensitive plant populations.

Botanical surveys

Although this area has had some historic botanical surveys, the data in the corporate database is very incomplete. In addition, the sensitive species list has changed substantially recently. Botany surveys for this project were conducted in 2018. Additional surveys of proposed temporary roads and rock pit sources were conducted in 2019. The information from these surveys has been entered into the Forest Service Natural Resources Manager database. See Appendix 1 for a summary of the survey information. See the project files for a map of the survey areas.

Incomplete and unavailable information

Botany surveys for this project were mainly focused on areas that may be subject to ground disturbing activities. In addition, units were prioritized based on the amount of high to moderate potential habitat for sensitive species. It is impractical to conduct botanical surveys that cover 100% of potential sensitive plant habitat. Therefore, even with extensive botanical surveys, it is possible that there may potentially be undiscovered populations of sensitive plants in project activity areas.

Some sensitive plant species do not produce above-ground plants every year. Many annual species are dependent upon sufficient early spring rains to germinate. Most of the non-vascular plants (mosses, and lichens) are very difficult to identify. Many plants can only be identified during a very limited time frame in the growing season. Therefore, it is not possible to state with certainty that all sensitive plants will be detected during botanical surveys. This is why some project design features are aimed at protecting habitat, and why effects calls are made for all species that may occur in a particular habitat.

Spatial and temporal context for effects analysis

Direct and indirect effects boundaries

Since most plants do not move over large areas quickly, and no downstream effects are anticipated, all analysis is confined to the project planning area. This scale is large enough to identify trends to sensitive species that could result from implementation of this project.

The temporal boundaries for analyzing the direct and indirect effects include short term and long term effects. Short-term effects are up to five years after project implementation. These are from direct effects, such as destruction due to ground disturbance from heavy equipment, and incineration from burning. Long term effects are changes that occur more than five years after implementation of all activities. These effects would generally be from indirect things such as changes in sunlight, erosion, changes in hydrologic regimes, and changes in grazing patterns.

Cumulative effects boundaries

The spatial boundaries for analyzing the cumulative effects is also the project area. As stated above, plants do not move rapidly, and no downstream effects are anticipated. The temporal boundaries for analyzing the cumulative effects begin at the time European people first came to the area. The time frame for cumulative effects into the future is approximately 30 years from the time the project begins. This is the amount of time that the majority of the actions proposed will have been completed and the vegetation response to these actions has occurred.

Basis of effects determinations

Federally listed, proposed and candidate species

Under the implementing regulations of the Endangered Species Act, Federal agencies must review their actions and determine whether the action may affect federally listed and proposed species or proposed or designated critical habitat. To accomplish this, Federal agencies must request from the Service a list of species and critical habitat that may be in the project area. This list is now obtained on the internet. This list was requested via the U.S. Fish and Wildlife Service IPaC website on March 27, 2019. They determined that Spalding's catchfly and whitebark pine may be in the project area.

Federal agencies determine whether their actions may affect any listed species or their critical habitat. If no species, or their critical habitat, are present or affected, the call would be "No Effect" (NE). In these cases, consultation with the USFWS is not required. If the species or habitat may be affected, consultation with the Service is required. The possible effect determinations for federally listed plants are defined in the Section 7 process of the implementing regulations. See Appendix 3 for a list of the various potential effects calls for federally listed species.

Forest Service Designated Sensitive plant species

Forest Service sensitive species are designated by each regional forester for their respective regions. Sensitive species are those plant and animal species identified by a regional forester for which population viability is a concern, as evidenced by:

1. Significant current or predicted downward trends in population numbers or density.
2. Significant current or predicted downward trends in habitat capability that would reduce a species existing distribution.

The four effect determinations for sensitive plants were defined in the paper Streamlining Biological Evaluation and Conclusions for Determining Effects to Listed, Proposed, and

Sensitive Species. (Salwasser, et al., 1995). See Appendix 3 for a list of the various potential effects calls for sensitive species.

Affected environment

Federally listed, proposed, and candidates for federal listing

Spalding's catchfly (Silene spaldingii)

The USFWS recommended that we consider this species for this analysis (USFWS, 2019). Spalding's catchfly was listed by the USFWS as threatened in 2001. A final recovery plan was released October 15, 2007. Spalding's catchfly is a sticky perennial herb in the carnation family. It blooms from mid-July through August, but it can bloom into September. The plant may remain dormant for several consecutive years without emerging above ground.

Spalding's catchfly is found at scattered locations from southeastern British Columbia, eastern Washington, northeastern Oregon, and east to northern Idaho and western Montana. This species occurs on the Pomeroy Ranger District (in Asotin County, Washington).

This species grows in fairly open grasslands on relatively deep-soiled ridgetops and adjacent areas. Some plants are found under the shade of ponderosa pine trees, and they are occasionally intermixed with shrubs such as serviceberry, roses, ninebark, and snowberry. The sites on the Pomeroy Ranger District are found between 3,000 and 3,900 feet in altitude.

There is no potential habitat for Spalding's catchfly within this project area. Most of project area is at much higher elevations than all known sites on the Umatilla NF. The lower elevation portions of the project area do not include deep-soiled grasslands.

Whitebark pine (*Pinus albicaulis*)

The USFWS recommended that we consider whitebark pine for this analysis (USFWS, 2019). Whitebark pine is a federal candidate for listing under the Endangered Species Act. This species is a candidate for federal listing is due to concerns regarding its decline throughout most of its range. This has been attributed to a combination of white pine blister rust (a non-native fungus that kills the trees), and mountain pine beetle (a native beetle) infestations. Whitebark pine in the Blue Mountains have experienced mortality due to white pine blister rust and bark beetles.

Whitebark pine grows in cold high elevation areas, on shallow, relatively dry, rocky soils. On the Umatilla NF, whitebark pine is found primarily in the Vinegar Hill area, on the southern boundary of the forest. It is found between 7,400 and 7,900 feet there. The highest elevation in the project area is 5,700 feet. Therefore, there is no habitat for whitebark pine in the project area.

Documented sensitive plants

There is only one sensitive plant species documented where activities are proposed within the project area. The Blue Mountain penstemon (*Penstemon pennellianus*) was found in scattered locations within the project area. This species is endemic to the northern Blue Mountains. This means that even though it may be relatively common in the northern Blue Mountains, it is not found anywhere else in the world. All of the sites where this species occurs in the project area are in open rocky areas, often on ridgetops and south-facing slopes. There may be

additional undiscovered populations of this species in unsurveyed portions of the project area.

The Blue Mountain buttercup (*Ranunculus populago*) is documented about 1/2 mile to the southeast of the project area. This population is around a spring and along a small stream. This species is only found in areas where snowmelt, and seep or spring water provide water in the spring. This species is on the edge of its range in southeastern Washington. It is more common in the Cascade and Blue Mountains of Oregon, and in northern Idaho.

Since riparian areas will be buffered from activities, most riparian and wetland areas were not surveyed for this project. It is possible that there are undetected populations of the Blue Mountains buttercup in the project area.

The lonely phlox (*Phlox solivaga*) is documented in on area about one mile to the west of the project area. This species has only recently been described in the scientific literature, so only a few botanical surveys have been conducted for this species. The lonely phlox occurs in open rocky areas, along ridges, and in cracks of rocks on cliffs. This species has so far only been found in a small area of southeastern Washington. Almost all known sites are on either the Walla Walla or Pomeroy Ranger Districts.

The documented site is very close to one of the proposed rock quarries. The rock quarries and proposed temporary roads were surveyed for rare plants in 2019. No lonely phlox was found in those surveys. It is possible that there are undocumented plants in in unsurveyed open ridges and rocky areas within the project area.

Sensitive plant habitat

In addition to the three documented sensitive plant species in the vicinity, there may be potential habitat for another twenty eight sensitive species in the area. Owing to the large number of potential sensitive plant species that may be found within the project area, it is most efficient to talk about the broad habitat types in the project area. For this analysis, plant communities and special habitats are grouped into broad habitat associations. The habitat analysis groups used here are roughly based upon the potential vegetation groups outlined in the USDA publication Potential Vegetation Hierarchy for the Blue Mountains Section of Northeastern Oregon, Southeastern Washington, and West-Central Idaho (Powell, 2007). Only the potential vegetation groups (PVGs) present within the planning area are included in the following discussion. Each sensitive species has been assigned to one, or more, of the habitat types. See Appendix 2 for a list of which species may be found in each of these habitat types.

Cliffs, rock outcrops, and talus

Cliffs, rock outcrops, and talus are generally very dry. This creates conditions where very few plants are able to survive. Owing to its limited extent, this specialized habitat type is not discussed in the potential vegetation hierarchy for the Blue Mountains. This community type is extremely limited in this project planning area. Most of the sites are so small that they are not delineated in GIS data layers. There is a small group of sensitive plants that are only found in this habitat type. Some are found on dry cliffs, others on wet cliffs, and some are associated with particular rock types.

Lithosols and grasslands

Lithosols are generally flat habitats with very shallow rocky soils underlain usually by basalt. These sites are characterized by soils that tend to be at least partially saturated following spring snow melt. They desiccate quickly as they are exposed to full sun for the entire growing season. Plants adapted to this harsh environment usually bloom and fruit early in the growing season. Basalt underlain lithosols can be found in the dry upland shrub land and the dry upland herb land potential vegetation groups. Lithosols are often found as small inclusions within a larger matrix of grassland, shrub land, and forest. Given their low productivity and spotty fuel connectivity these habitats have historically burned infrequently at low intensities. Current invasions by non-native invasive grasses have increased the fuel loads in these areas; fire may now carry across these sites where they historically did not. Lithosol sites, particularly those with serpentine substrates, harbor a significant number of sensitive plant species. Grasslands are areas with soil and climate regimes that are too harsh for tree establishment and survival. These areas are generally dominated by several species of bunchgrasses.

Upland forested plant communities

Forested plant communities in the project area are overwhelmingly dominated by conifers. Although these forested plant communities are discussed separately here, effects from project activities will be discussed collectively in terms of potential impacts to the larger group.

Cold upland coniferous forest

Cold upland forests in the planning area are largely dominated by subalpine fir, Engelmann spruce, lodge pole pine, and larch. The subordinate plant association groups (PAG) within the Cold Upland PVG are the Cool Dry, Cold Dry, and Cold Moist upland forest types. There are several generally more northern species that are found in this habitat type on the sensitive list.

Moist upland coniferous forest

The moist upland coniferous forest type includes the Warm Moist, Cool Moist, and Cool Wet PAG's. The dominant climax species of trees in these areas range from Douglas-fir in warmer somewhat dry sites, to grand fir in moist areas, to lodge pole pine, in co-dominance with grand fir, and subalpine fire and Engelmann spruce in higher elevation cooler areas. There are several sensitive plant species, notably several species of grape ferns that are found in this habitat type.

Dry upland coniferous forest

The dry upland forest PVG includes the Hot-Dry and Warm-Dry PAG's. These PAG's are found on dry, south facing and often gently-sloping sites. They tend to occur at relatively low elevations in the planning area. Dry forest vegetation PAG types include plant associations with the dominant climax conifer ranging from ponderosa pine, through the entire Douglas-fir series, to the drier plant associations of the grand fir series. Fire exclusion has facilitated the growth of relatively thick stands of younger trees in many areas in this group.

Wetland and riparian habitats (including streams and wetlands)

Wetland and riparian habitat types support a proportionately high number of sensitive plants. In particular, moderate to high elevation wetlands, including peat bogs, harbor several sensitive plants that are not found in other habitat types. Wetlands are classified as Category three riparian areas for Riparian Habitat Conservation Area buffers.

Due to the fragile nature of wet areas, many of these habitat types have been degraded by historic and ongoing grazing, road building, and logging. Conversely, due to the moist nature of the sites, wildfires tend to impact these areas somewhat less than upland areas.

Environmental consequences

Alternative A – Proposed action

Summary of proposed actions

The following information is a summary from the draft EIS. See that document for details of the various activities. Alternative A is the proposed action. This alternative would implement the purpose and need for the project, as outlined in Chapter 1 of the draft EA. All proposed activities would be consistent with the current Umatilla National Forest plan.

The following potential activities are planned: 1150 acres of commercial timber harvest; 440 acres of non-commercial thinning for timber stand improvement, and 1530 acres of prescribed landscape burning. There will be no mechanical treatments in Riparian Habitat Conservation Areas (RHCA's). There will be no new permanent road construction, and no temporary roads in riparian habitat conservation areas. There will be construction of approximately 1 mile of temporary roads. No activities are planned in Wilderness or Inventoried Roadless Areas.

Rock for road maintenance will be sourced from two existing rock pits. One is just east of Griffin Peak (T7N R39E Section 14 NW4), and the other is at Chase Mountain (T8N R40E Section 32 SW4). See the associated Draft EA for details of the proposed activities.

Botany related project design features

The following botany related project design features are included for all action alternatives. Additional design features listed are not specifically botany related, but they will also provide protections to botanical resources.

Table 1 Botany related project design features

Design Feature	Description
BOT-1	Ground disturbing activities such as, but not limited to, logging, vehicle and equipment parking, log decking, yarding, slash piling and burning, road construction, and construction of fire lines shall not be authorized where populations of Federally listed, proposed, and candidate species occur. Exceptions may be made if the activity is determined to be beneficial to the species of interest. A botanist will identify the spatial extent of sensitive plant populations in proposed activity areas. Project planners, sale administrators, and botanists will coordinate to reduce the risk of impacting populations of sensitive plant species before implementing ground disturbing activities. Areas to be avoided will be designated as "special management areas" on all project and contract maps. If new locations of sensitive species are discovered during project implementation, the sale administrator shall halt ground disturbing activities, and notify a botanist before activities resume. Appropriate mitigations will be developed and implemented.
BOT-2	Prescribed burning in areas with populations of sensitive species may be implemented when it is determined that the activities would not negatively impact the species. This would depend upon each species expected response to fire. A botanist will work with the fire planners to design the burn plans to reduce impacts to sensitive plant populations.
BOT-3	Surveys of selected potential habitat for sensitive plants shall be conducted by a botanist before implementation of proposed activities. The Regional Forester sensitive species list in force at the time of the survey will be used to determine which species to target. Surveyors will search for all rare plant species potentially found in habitats that may be impacted by activities. Sites where ground disturbing activities are proposed will be the highest priority for pre-implementation surveys. Areas where prescribed fire is proposed will also be analyzed for the need to survey. Surveys include the vegetation management units and adjacent areas where activities, such as log decks, equipment staging areas, and temporary roads, may cause impacts.
BOT-4	Seed of the sensitive blue mountain penstemon will be collected and seeded back into currently occupied habitat in the temporary roads after work is complete.

Direct and indirect effects - Alternative A

Federally listed, proposed, and candidates for federal listing

Spalding's catchfly and whitebark pine

There is no potential habitat within the project area for Spalding's catchfly or whitebark pine. Therefore, implementation of any of the alternatives will have no direct, indirect, or cumulative effects on Spalding's catchfly, whitebark pine, or any habitat for those species. The effects call for these species as outlined under the Endangered Species Act is therefore "no effect" (NE). Consultation with the U.S. Fish and Wildlife Service is not necessary for these species.

Documented sensitive plants

The Blue Mountain penstemon is the only sensitive plant species documented within the project area. The species was found in several areas on open ridges, roadsides, and south-facing rocky slopes in the project area. This species has just recently been added to the sensitive species list, so the extent and abundance has not been well documented. This species is a local endemic. This means that it does not grow anywhere else in the world. The entire range of this species is confined to the Walla Walla and Pomeroy Ranger districts on the Umatilla NF, and south, and east, to the northern portions of the Wallowa-Whitman National Forest. Botany surveys in 2018 in this, and other project areas on the Umatilla National Forest, documented more than thirty new populations of this species. Although it is geographically limited, the species may actually be relatively common in its limited range. More surveys will clarify the true rarity of the species.

Vegetation management activities would be done primarily in forested areas. Since the Blue Mountain penstemon occurs only in open sites, there would generally be no direct effect to the species due to the actual cutting of trees. Since there are populations adjacent to several units,

there is potential for negative impacts due to the use of the open areas for log landings, slash piles, and equipment staging areas. The project design feature to designate the areas where these populations occur as special management areas on contract and other implementation maps would provide substantial protection from ground disturbing activities to these documented populations within and adjacent to most units.

Populations of Blue Mountain penstemon were documented within and adjacent to several proposed temporary roads. The roads will be designed to avoid these areas as much as is feasible. In areas where road construction will go through populations it is highly likely that some plants will be inadvertently dug up and killed. Seed from nearby plants will be collected, and then scattered back into the disturbed habitat as part of the temporary road restoration. It is projected that some of the seed will establish into new plants. This seeding should reduce the level of negative impact to these plants and habitat in the temporary roads in the project area.

Blue Mountain penstemon was also found in 2019 in both potential rock source areas. They are located on the southern edge of both pit areas. These sites will be designated as special management areas on all implementation maps. This should provide adequate protection.

Landscape scale fire is proposed on 1530 acres in one large area in the northern portion of the project area. A botanist will work with the fire staff to design burn plans to minimize potential negative effects to the species. Firelines would be constructed to avoid the plants as much as possible. Fire may be allowed to burn through these populations. It is most likely that the burning will occur in the late summer or fall. This species is a deep-rooted perennial that likely survives late season fire. It occurs in open rocky areas that generally do not have enough fuel to burn hot. The plants are usually dried up for the season by then. Even if the tops of some plants burn, the fire would most likely not kill them. Monitoring of any populations that would be burned would be done to ensure that these assumptions are correct.

Table 2 Alternative A - Activity Units with Blue Mountain penstemon

Activity	**Units with Blue Mountain penstemon**	**Comments**
Landscape prescribed fire (1530 acres)	One large unit with 9 documented polygons	Area not fully surveyed. Likely more populations within overall burn area.
Non-commercial hand thinning, lop and scatter or hand pile burning (440 acres)	53, 54, 56, 58 All sites are on the fringes of the proposed units.	Not all units were surveyed, risk to plants was determined to be relatively low.
Ground-based logging (180 acres)	01A, 01C, 02 Plants are on edges or adjacent to units.	Most units surveyed.
Skyline (cable yarding) logging (800 acres)	03, 04, 12, 12A, 13, 17, 20, 22, 23, 24, 25 Most populations are adjacent to units.	Many units not surveyed. Once landings and season of harvest are determined, additional surveys may be conducted.
Helicopter logging (170 acres)	5, 12B, 12C, 18A In non-forested areas adjacent to units	
Rock quarrying	Plants found in both proposed rock pit source areas.	Plants will be avoided as special management areas.

Due to the uncertainty about impacts from building temporary roads, and prescribed fire, it cannot be stated that there would be absolutely no impact to documented Blue Mountain penstemon populations. In addition, not all areas of potential habitat were surveyed for this project. It is possible that there are additional undiscovered populations in areas that may have ground disturbance and prescribed fire.

Even through the Blue Mountain penstemon is on the sensitive plant list, it may actually be somewhat common in the local area where it occurs. Since staff started searching for this species in 2018, they have documented it in several areas on the Walla Walla and Pomeroy Ranger Districts. It is probable that there are many additional undocumented sites for the species in the northern portion of the Umatilla National Forest. Even if a few plants get destroyed by implementation of this project, there are many plants outside the Upper Touchet planning area that will not be negatively impacted. Therefore, implementation of Alternative A may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species (MIIH).

Sensitive plant habitat

Virtually every habitat may potentially support one or more Forest Service sensitive plant species. Potential project impacts are discussed here in regards to the habitat type affected. See Appendix 2 for the list of habitats and their associated species. The amount of risk of negative impacts to sensitive plant habitat is directly proportional to the number of acres of proposed activities.

Cliffs, rock outcrops, and talus

There is very little of this habitat type where activities are proposed. Very few human activities have potential for direct or indirect impacts to this habitat type. There are generally no harvestable trees in these habitats. Due to the low fuel levels, prescribed fire generally does not burn hot in this habitat type. The main activity that may impact this habitat type is rock quarrying, or road construction. There are two rock pits that have been identified as potential sources of rock material for road work. The removal of rocks could directly kill plants by excavating them. Quarrying may potentially indirectly impact this habitat by exposing roots of plants that are not directly removed. The identified rock source areas will be surveyed for sensitive and invasive plants before rock removal begins. If any sensitive plants are found, mitigations to minimize impacts will be implemented. Treatment of invasives will also be done before quarrying.

Due to the limited amount of cliffs, rock outcrops, and talus, the naturally stable nature of this habitat type, and the project design features to minimize potential impacts, the implementation of the proposed action should have no impact (NI) to cliffs, rock outcrops, and talus habitats, and to any sensitive plant species that may occur in those habitats.

Lithosols and grasslands

Since there are generally few trees in these habitat types, the main potential ground disturbing activity would be the use of these area for log decks, burn piles, temporary roads, and parking of equipment. Some areas may have a few isolated trees removed. Soil resource project design features for these least resilient soils will reduce ground disturbance and compaction in these areas. Some prescribed fire may occur in lithosols. Most species that occur in these habitat types will be senescent and presumed to be relatively safe from impacts from fall burns. Spring burns may occur when these plants are actively growing. There is potential to impact the current year's growth and reproduction by spring burning. The high levels of non-native invasive grasses in these areas has undoubtedly changed the fire regime in this habitat type. It is likely that fall burns will be hotter and will spread more quickly than they did historically. Spring burns may actually help to reduce the density of North Africa grass and other non-native annual grasses. Monitoring

of vegetation response of the various burning treatments in the lithosols and other grasslands is highly recommended.

Due to the uncertainty about impacts from prescribed fire, the call for sensitive plants that occur in lithosol and grassland habitats is may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species (MIIH).

Upland forested plant communities

Vegetation management actions that may have direct impacts to sensitive plants in upland coniferous forested habitats include commercial and non-commercial thinning, and associated yarding, slash piling, grinding, or scattering, and application and control of prescribed fire. The greatest potential for negative impacts is due to ground disturbance from logging equipment and masticators that may destroy or dislodge plants and create bare soil where invasive plants may establish and compete with sensitive plants. Road maintenance, and new construction (including temporary roads) can also directly kill or dislodge sensitive plants. Ground based equipment can only operate on slopes of 35% or less. Therefore, sensitive plant habitat on steeper slopes would be less likely to experience widespread disturbance and the associated negative impacts to sensitive plants and their habitat. Cable yarding on steeper slopes would still create significant disturbance within the yarding corridors.

Prescribed landscape scale fire and slash pile burning could scorch sensitive plant individuals within the fire area, and also may kill plants under and directly adjacent to slash piles. Fire line construction has the potential to directly kill or dislodge sensitive plants in the area that is denuded. Natural fire generally occurs in mid to late summer. Much of the prescribed fire of piles is done in spring or early summer. This is the time of year when plants are actively growing. It is unknown if burning sensitive plants when they are actively growing would cause more mortality than when they may be senescent later in the summer.

Some species of sensitive plants may actually respond favorably to fire. These include species that need fire to stimulate seeds, and others that established under sunny conditions that are now shaded out by natural succession.

Indirect effects to sensitive plants in upland forested habitats could result from altering the hydrologic regime and changing light intensity. Vegetation management may also alter the interaction of herbivores and plants. By opening up the canopy of the forest, grasses and other palatable plants may increase. This may in turn increase grazing activity. Conversely, logging created slash may impede travel by ungulates. Improved roads may also lead to increases in the amount of off-road driving to collect firewood, camp, wreak havoc, and retrieve game. Road construction and maintenance activities contribute to the movement of non-native invasive species along road shoulders and ditches, and to and from quarry and waste disposal areas. Non-native invasive species may potentially outcompete or prevent the recruitment of new sensitive plant populations. Several project design features are included that should help to reduce the chance of increasing non-native invasive plant abundance in the project planning area. Restoration of temporary roads and reclosure of currently closed roads that would be opened should help to reduce these impacts in the long-term.

It is logistically impossible to survey all areas thoroughly enough to state unequivocally that no sensitive plants are present. It therefore must be assumed that undiscovered populations of sensitive plant species in coniferous areas may be impacted by proposed project activities.

The potential risk to sensitive plants is directly proportional to how many acres will be treated in each habitat type. No vegetation management activities or landscape burning are planned in cold upland coniferous forest types. Limited vegetation management and fuels treatments would occur

in some moist upland coniferous forest plant communities. The majority of activities would occur in the dry upland forest types. Therefore, the risk to plants in cold and moist upland forests will be proportionally less than the risk to plants in warm and hot dry forest types.

Several project design features will help to reduce the risk of negative impacts to coniferous forest habitat type and undiscovered populations of sensitive plants in those areas. See the botany related project design features and mitigation measures listed above for details. Most important of these project design features is the requirement to conduct botany surveys before project implementation. Any sensitive plants that are found in surveys will be assessed for the need to implement buffers or other mitigations.

Due to the uncertainty about impacts from prescribed fire and the inability to guarantee that all populations of sensitive species will be discovered during surveys, the call for sensitive plants that occur in upland coniferous forest areas is may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species (MIIH).

Wetland and riparian habitats

The mechanisms for direct and indirect effects to wetland and riparian habitats are similar as for upland coniferous forest communities. See the discussion above related to potential direct and indirect impacts to upland forest communities for details of similar potential effects to riparian communities.

Compared to upland areas, riparian habitats are much more susceptible to soil disturbance and erosion from ground disturbing activities. Conversely, wet areas tend to be more resilient than many drier sites. The additional moisture and deep soils, and/or rocky banks provide refuge and additional water to allow communities to recover relatively quickly.

Several project design features will help to reduce the risk of negative impacts to wetland and riparian habitat type and undiscovered populations of sensitive plants. There will be no ground disturbing equipment allowed in wetland and riparian habitats. All water bodies and wetlands will be buffered from mechanical equipment according to Blue Mountain riparian project design criteria (see the DEIS for details). Firelines will not be constructed in these areas. Wetland and riparian areas not already identified will be buffered as they are discovered by project implementation staff. See the botany, fuels, and water quality related project design features for details.

Fire generally burns at low intensity in wetland and riparian habitats. Prescribed fire burn plans will be designed to follow project design features, with the goal of minimizing high intensity fire in wetland and riparian areas. Due to the buffers to riparian areas, and the expectation that any prescribed fire will be done with a low intensity, the call for sensitive plants that occur in wetland and riparian areas is no impact (NI).

Summary of effects to sensitive plants from Alternative A

There is one sensitive plant species documented within, and adjacent to, proposed activity areas. The project design features should provide protection from most ground disturbing activities to documented sensitive plant populations. Due to the uncertainty about impacts from temporary road construction, and prescribed fire, it cannot be stated that there would be absolutely no impact to documented Blue Mountain penstemon populations. Therefore, for documented populations of Blue Mountain penstemon, implementation of Alternative A may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species (MIIH).

Effects calls for potential impacts to undiscovered sensitive plants were made for various habitats. Cliffs, rock outcrops, and talus slopes are naturally protected from most activities. In addition, project design features will provide further protections to these habitats. For this reason, the implementation of the proposed action should have "no impact" (NI) to cliffs, rock outcrops, and talus habitats, and to any sensitive species that may occur there.

Project design features for soil protections should protect lithosol areas from negative impacts due to vegetation management activities. There is little data to access what the impacts of landscape burning will be. Because of this uncertainty about impacts from prescribed fire the effects call for sensitive plants that occur in lithosol and grassland habitats is "may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species" (MIIH).

The habitat types with the greatest risk of negative impacts due to proposed project activities are upland forested communities. This is where the most ground disturbance and changes to forest stand conditions will occur. In addition, fuels treatments and landscape burning will be implemented in this habitat type. Several project design features will help to reduce the risk of negative impacts to coniferous forest habitat types and sensitive plants in those areas. The amount of ground disturbance is the main factor regarding the risk of negative direct impacts to sensitive plants in upland forested communities. Ground-based logging would produce the greatest amount of ground disturbance. Cable (skyline) logging would produce less disturbance since heavy equipment would be restricted to landing areas. The yarding corridors would experience disturbance, but the adjacent areas would have proportionately less than would occur from ground-based logging. Helicopter logging would have even less ground disturbance. The main areas of disturbance under helicopter logging would be at the landings on top of the ridges. The risk of indirect negative impacts would be similar for all types of logging. The main potential indirect impact would be changes in sunlight, water regimes, and increased desiccation due to increased airflow.

Due to the uncertainty about impacts from prescribed fire and the inability to guarantee that all populations of sensitive species will be discovered during surveys, the call for sensitive plants that occur in upland coniferous forest areas, for the proposed action, is "may impact individuals or habitat, but would not likely contribute to a trend towards Federal listing or cause a loss of viability to populations of sensitive plant species" (MIIH).

The project design features and best management practices to buffer and protect riparian and wetland habitats from ground disturbance and to reduce negative prescribed fire impacts should greatly reduce the probability of negative impacts to wetland and riparian dependent sensitive plant species and habitats. For this reason, the implementation of the proposed action should have "no impact" (NI) to riparian and wetland habitats, and to any sensitive species that may occur there.

Cumulative effects – Alternative A

The geographic scale considered for cumulative effects is the project planning area. This is because most populations of plant species generally do not shift across the landscape over a relatively short time. The time scale for cumulative analyses begins in the late 1800s. This is when white settlers began substantial logging, mining, and grazing. These activities caused erosion, trampling, and changes in tree composition and density. These activities, and other alterations caused many changes to the natural course of disturbance and succession. For the purposes of analysis, cumulative effects for sensitive plants extend to about 30 years into the future. By that time, direct and indirect effects from other reasonably foreseeable activities will have occurred.

It is highly likely that historical activities, particularly grazing, and timber harvest, road construction, and fire suppression activities have destroyed populations, and altered habitats for sensitive plants. See the associated DEIS for a list of past, present, and reasonably foreseeable activities relevant to cumulative effects. Since records of rare plants have only been kept for the last thirty years, historical effects are not quantifiable.

Since 1990, protection and management of sensitive species and their habitats in the form of project design features, avoidance, or other mitigations have been included in nearly all projects. This is in accordance with forest planning documents and policy set forth in FSM 2670. These policies have, and would continue to, reduce the potential of cumulative effects to sensitive plant populations and supporting habitats. For the foreseeable future, this project would likely be the only landscape-scale project implemented in the project area. There is no permitted cattle grazing in this area, so there would be no cumulative effects related to ongoing and future grazing. Therefore, there would be very little contribution to cumulative effects from ongoing and reasonably foreseeable future activities.

Spalding's catchfly and whitebark pine

Since there are no known populations, and no potential habitat for Spalding's catchfly or whitebark pine in the project area, there would be no cumulative effects to these species.

Sensitive plants and potential habitat

As discussed above, past activities have undoubtedly impacted sensitive plant populations and habitats. There may be small scale future projects in these areas, but it is anticipated that after this project is implemented, there would not be any large scale human induced vegetation changes in this project area in the next thirty years. Although some unquantifiable amount of cumulative effects are likely, it is assumed that they won't be of a magnitude that will contribute a trend towards federal listing of sensitive plants, or lead to significant impacts as defined by the National Environmental Policy Act.

Conclusion:

The biological evaluation process was completed for this project by a journey-level botanist. There is no habitat for any Federally listed, proposed, or candidate plant species in the project area. Therefore, implementation of Alternative A will have "no effect" (NE) to any species of interest under the Endangered Species Act. Therefore consultation with the US FWS is not required for plants for this project.

There is only one documented Forest Service sensitive plant species in the project area. The Blue Mountain penstemon was found in sixteen areas in proximity to activity units. Project design features will reduce the chances that these populations will be impacted by ground disturbing activities. Prescribed fire may be allowed to burn through some populations. It is anticipated that due to the open, rocky nature of the habitat, and the late season of prescribed burning that this activity probably would not negatively impact the species. However, until monitoring of temporary road restoration, and prescribed burning, can provide empirical evidence that these activities will not negatively impact plants, the overall call for the Blue Mountain penstemon for this project would be "may impact individuals or habitat, but would not likely contribute to a trend towards Federal listing or cause a loss of viability to populations of sensitive plant species" (MIIH).

Effects calls for potential sensitive plants were made based upon potential impacts to the various habitats where they occur. The project design features would reduce the risk of negative impacts to most habitats. However, not all potential impacts (mostly related to ground disturbance) would be totally eliminated. Therefore, effects calls for sensitive species were made according to the

potential impacts to the various habitats. The effects calls for cliffs, rock outcrops, talus, and riparian areas and wetlands is "No impact" (NI). The effects calls for lithosols, grasslands, and upland coniferous forests is "may impact individuals or habitat, but would not likely contribute to a trend towards Federal listing or cause a loss of viability to populations of sensitive plant species" (MIIH).

Each plant species is rated for rarity both globally and state-wide. None of the sensitive plant species that may occur in the project area are extremely rare on a global scale. None of the documented or strongly suspected species are rated as extremely rare in the state of Washington. Therefore, even if project activities may impact individual plants, entire populations, or habitat, there are additional populations in the Forest plan area outside of the project area. Many species are also much more abundant in other geographic areas, where they are not considered to be rare. Therefore, even if some sensitive plants are inadvertently negatively impacted, implementation of this alternative should not increase the need for Federal listing of any sensitive species. See Appendix 3 of the botany report for the individual effects calls for each sensitive species.

Alternative B - No Temporary Roads

Summary of proposed actions

Vegetative treatments in Alternative B are in the same designated units as Alternative A. Alternative B proposes no construction of any temporary roads. More cable and helicopter logging would be used to access and remove trees that are inaccessible from existing roads. Prescribed fire is planned on the same 1,530 acres as Alternative A. This alternative includes the same project design features as were discussed under Alternative A.

Direct and indirect effects - Alternative B

Federally listed, proposed, and candidates for federal listing

Spalding's catchfly and whitebark pine

As discussed under Alternative A, there is no potential habitat within the project area for Spalding's catchfly or whitebark pine. Therefore, implementation alternative B will have no direct, indirect, or cumulative effects on Spalding's catchfly, whitebark pine, or any habitat for those species. The effects call for these species is therefore "no effect" (NE). Consultation with the U.S. Fish and Wildlife Service is not necessary for these species for this project.

Documented sensitive plants

The Blue Mountain penstemon is the only sensitive plant species documented within the project area. See the discussion under Alternative A for a description of habitat requirements and potential effects to the species due to proposed project activities.

For Alternative B, since the total number of acres of vegetation management, and landscape scale fire is the same as in Alternative A, the potential impacts to Blue Mountain penstemon would be similar to those discussed under that alternative. Since there would be no temporary road construction, there would be no risk of negative impacts to the Blue Mountain penstemon due to that activity. Therefore, by not building the temporary roads, the risk of direct and indirect impacts will be reduced under Alternative B. Although there is a reduced risk because of not building temporary roads, it is not enough of a reduction to change the overall effects call to the species. Therefore, the effects call for Blue Mountain penstemon for alternative B is may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species (MIIH).

Table 3 Alternative B-Activity units with Blue Mountain penstemon

Activity	Units with Blue Mountain penstemon	Comments
Landscape burning	One large unit (1522 acres) with 9 documented polygons	Area not fully surveyed. Likely more populations within overall burn area.
Non-commercial hand thinning, lop and scatter or hand pile burning	53, 54, 56, 58 All sites are on the fringes of the proposed units.	Not all units were surveyed, risk to plants was determined to be relatively low.
Ground-based logging	01A, 01C, 02, 20	Most ground based units surveyed in 2018.
Cable yarding logging	03, 04, 13, 17, 22, 23, 24, 25 Most populations adjacent to units.	Many units not surveyed.
Helicopter logging	5, 12, 12A, 12B, 12C, 18A	All in non-forested areas adjacent to actual units
Rock quarrying	Plants found in both proposed rock pit source areas.	Plants will be avoided as special management areas.

Other sensitive plants and sensitive plant habitat

Since the proposed activities under Alternative B are very similar as for alternative A, the effects to sensitive plants and their habitats are essentially the same. The main difference is that in areas of cable and helicopter logging the amount of ground disturbance would be less, and therefore the potential risk to undiscovered populations and habitat for sensitive plants would be proportionately less. In addition, by not constructing temporary roads, there would also be reduced potential impacts from that activity. See the discussion under alternative A for details of the effects calls for various habitats.

Summary direct and indirect effects-Alternative B

There is no potential habitat within the project area for Spalding's catchfly or whitebark pine. Therefore, the effects call for these species is therefore "no effect" (NE).

The Blue Mountain penstemon is the only sensitive plant species documented within the project area. For Alternative B, the potential impacts to Blue Mountain penstemon would be similar to those discussed under that alternative. The main difference is that since there will be no temporary road construction, there would no be impacts to plants due to termporary road construction. Although there is a reduced risk because of not building temporary roads, it is not enough of a reduction to change the overall effects call to the species. Therefore, the effects call for Blue Mountain penstemon for alternative B is may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species (MIIH).

Since the proposed activities are very similar as for alternative A, the effects to potential sensitive plants and their habitats are essentially the same. The main difference is that in areas of cable and helicopter logging the amount of ground disturbance would be less, and therefore the potential risk to undiscovered populations and habitat for sensitive plants would be proportionately less. In addition, not building temporary roads would also reduce potential impacts from that activity. See the discussion under alternative A for details of the effects calls for the various habitats.

Cumulative effects – Alternative B

Cumulative effects to rare plants are the same as for alternative A. See that section for details.

Alternative C Dropped from consideration

Alternative C was dropped from full analysis consideration.

Alternative D – Include actions within moist Forest

Summary of proposed actions

Alternative D proposes to cut grand fir trees up to 30 inches DBH where necessary to achieve desired outcomes. Three areas proposed in Alternative A were dropped from consideration in Alternative D to reduce impacts to wildlife movement and habitat connectivity, a reduction of 85 acres of areas prescribed for treatments. One unit was added (21 A B and C) and three others expanded to add 50 acres of tree thinning within the project area. Six non-commercial units (90 acres) shifted to an improvement cut in Alternative D to remove some trees over 5 inches DBH of less-desired tree species or tree quality. One 15 acre non-commercial unit was added (unit 76). The proposed landscape scale burning is the same as for alternative A.

Direct and Indirect Effects - Alternative D

Federally listed, proposed, and candidates for federal listing

Spalding's catchfly and whitebark pine

As discussed under Alternative A, there is no potential habitat within the project area for Spalding's catchfly or whitebark pine. Therefore, implementation of alternative D will have no direct, indirect, or cumulative effects on Spalding's catchfly, whitebark pine, or any habitat for those species. The effects call for these species is therefore "no effect" (NE). Consultation with the U.S. Fish and Wildlife Service is not necessary for these species for this project.

Documented Sensitive Plants

The Blue Mountain penstemon is the only sensitive plant species documented within the project area. See the discussion under Alternative A for a description of habitat requirements. The effects to these documented populations would be essentially the same as for alternative A.

Table 4 Alternative D-Activity units with Blue Mountain penstemon

Activity	Units with Blue Mountain penstemon	Comments
Landscape burning	One large unit (1522 acres) with 9 documented polygons	Area not fully surveyed. Likely more populations within overall burn area.
Non-commercial hand thinning, lop and scatter or hand pile burning	53, 54, 56, 58 All sites are on the fringes of the proposed units.	Not all units were surveyed, risk to plants was determined to be relatively low.
Non-commercial thinning, mechanical mastication	None	Not all units were surveyed, risk to plants was determined to be relatively low.
Commercial ground-based logging	01A, 01C, 02, 20	Most ground based units surveyed in 2018.
Rock quarrying	Plants found in both proposed rock pit source areas.	Plants will be avoided as special management areas.

Commercial cable yarding	03, 04, 12, 12A, 13, 17, 22, 23, 25 Most populations adjacent to units.	Many units not surveyed.
Helicopter logging	5, 12B, 12C, 18A	All in non-forested areas adjacent to actual units

Other sensitive plants and sensitive plant habitat

Since the proposed activities are very similar as for alternative A, the effects to sensitive plants are essentially the same. The main difference is that in areas of cable and helicopter logging the amount of ground disturbance would be less, and therefore the potential risk to undiscovered populations and habitat for sensitive plants would be proportionately less. See the discussion under alternative A for details of the effects calls for the various habitats.

Cumulative effects-Alternative D

Cumulative effects to rare plants are the same as for alternative A. See that section for details.

Summary of direct and indirect effects-Alternative D

There is no potential habitat within the project area for Spalding's catchfly or whitebark pine. Therefore, the effects call for these species is therefore "no effect" (NE).

The Blue Mountain penstemon is the only sensitive plant species documented within the project area. For Alternative D, the potential impacts to Blue Mountain penstemon would be similar to those discussed under Alternative A. The effects call for Blue Mountain penstemon for alternative D is may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species (MIIH).

Since the proposed activities are very similar as for alternative A, the effects to sensitive plants and their habitats are essentially the same. The main difference is that in areas of cable and helicopter logging the amount of ground disturbance would be less, and therefore the potential risk to undiscovered populations and habitat for sensitive plants would be proportionately less. See the discussion under alternative A for details of the effects calls for the various habitats.

Summary of environmental effects

Federally listed, proposed, and candidates for federal listing

There is no potential habitat for either Spalding's catchfly (federally-listed threatened) or whitebark pine (Federal candidate). Therefore, the effects call for Spalding's catchfly and whitebark pine for all alternatives is "no effect" (NE).

Documented sensitive plants

For all action alternatives, the forest plan components, and project design features would provide a high level of protection from ground disturbing activities for documented sensitive plant populations. The only documented sensitive plant species in activity areas is the Blue Mountain penstemon. Prescribed fire is the one activity that may potentially impact some documented populations of this species. Due to the uncertainty about impacts from prescribed fire, it cannot be stated that there would be absolutely no impact to documented Blue Mountain penstemon plants.

Therefore, for the Blue Mountain penstemon, implementation of all action alternatives "may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species" (MIIH).

Sensitive plant habitat

Virtually every habitat may potentially support one or more Forest Service sensitive plant species. Under all alternatives, there are many forest plan components and project design features that will prevent or minimize disturbance to all habitats.

The level of risk to each habitat type is directly proportional to the number of acres of disturbance and burning. Activities will be primarily focused on upland forested plant communities. Therefore, under all action alternatives, upland forest habitats would be altered the most from their current conditions. They will also undergo the most soil disturbance, and increased risk of negative impacts to sensitive plant populations and habitats. Due to the uncertainty about impacts from prescribed fire and the inability to guarantee that all populations of sensitive species will be discovered during surveys, the call for all action alternatives for sensitive plants in upland coniferous forest areas is "may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species" (MIIH).

Several project design features will help to reduce the risk of negative impacts to wetland and riparian habitats and associated sensitive plants. There will be no ground disturbing equipment allowed in wetland and riparian habitats. All water bodies and wetlands will be buffered from mechanical equipment according to Blue Mountain riparian project design criteria (see the DEIS for details). Firelines will not be constructed in these areas. Wetland and riparian areas not already identified will be buffered as they are discovered by project implementation staff. Fire generally burns at low intensity in wetland and riparian habitats. Prescribed fire burn plans will be designed to follow project design features, with the goal of minimizing high intensity fire in wetland and riparian areas. Due to the buffers to riparian areas, and the expectation that any prescribed fire will be done with a low intensity, the call for sensitive plants that occur in wetland and riparian areas is "no impact" (NI).

Since there are generally few trees in lithosols and grasslands, the main potential ground disturbing activity would be the use of these areas for log decks, burn piles, temporary roads, and parking of equipment. Soil resource project design features will reduce ground disturbance and compaction in these areas. Prescribed fire is the main activity with potential to negatively impact these habitats. Due to the uncertainty about impacts from prescribed fire, the effects call for all alternatives for sensitive plants that occur in lithosol and grassland habitats is "may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species" (MIIH).

Due to the limited acres of cliffs, rock outcrops, and talus, naturally stable nature of these areas, and project design features to minimize potential impacts, the effects call for all action alternatives for sensitive plants that occur in cliffs, rock outcrops, and talus is "no impact" (NI).

Table 5 Comparison of number of acres of activities

Activity	Alt A	Alt B	Alt D
Landscape prescribed fire	1530	1530	1530
Non-commercial hand thinning, lop and scatter or hand pile burning	440	440	365
Ground based logging	180	200	300
Skyline (cable yarding) logging	800	560	830
Helicopter logging	170	390	75
Total acres of commercial logging	1,150	1,150	1,205

Compliance with land management plans, relevant laws, regulations, and policies

Endangered Species Act

All alternatives comply with requirements of the Endangered Species Act in regards to plants. A biological assessment will be written, and appropriate consultation with the USFWS will be completed before the record of decision is signed.

Land management plans and Forest Service policy

All proposed project activities are consistent with the applicable National Forest plan goals, desired future conditions, objectives, and standards and guidelines as they relate to botanical resources. The biological evaluation process was conducted by a supervisory botanist. The analysis performed complies with Forest Service policy and the land management plan standards and guidelines for the Umatilla National Forests.

National Forest Management Act and National Environmental Policy Act

This report discloses the existing condition of sensitive plant populations and habitats, and analyzes the potential effects from the proposed activities to these resources. It also analyzes potential impacts to culturally significant plants. This report therefore provides all necessary scientific information to comply with the National Forest Management Act and the National Environmental Policy Act in regards to botanical resources.

Other relevant mandatory disclosures

There are no other relevant mandatory disclosures related to sensitive plants or other botanical resources for this project.

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Appendix 1: Upper Touchet Botany Surveys

Survey ID # in NRM	Date(s) of Survey	Units Included	Comments
061400S01500	06/19/2018	05, 17, 18, 23, 28, 29, 30, 38, 39, 60,	Survey mostly focused on ridges around units.
061400S01501	06/19/2018	01A, 01C, 2, 3, 4, 11, 20, 45, 53, 54	
061400S01502	06/20/2018	12A, 22, 25	
061400S01503	06/20/2018	14, 23, 24, 38, 65, 73,	Ridges and Upper Touchet Creek in ski area.
061400S01504	06/20/2018	10, 12, 13	Survey included N. Fork Touchet River below Touchet Corral. Unit 10 has riparian vegetation throughout.
061400S01505	06/20/2018	25, 25B, 61	
061400S01506	07/10/2018	19	Many wet areas
061400S01507	07/10/2018	26, 28A, 74	Mostly surveyed ridges on edge of units
061400S01508	07/10/2018	01A, 2, 11, 44, 45	
061400S02023	07/01/2019	Rock pits and Temporary roads 1, 8, 9, 10, 11, 12, 13	Blue Mountain penstemon documented
061400S02024	07/02/2019	Temporary roads 2, 3, 4, 14, 15, PR4 PR5	Blue Mountain penstemon documented

Appendix 2: 2019 Sensitive plant species status

Species with no habitat in project area

Scientific Name	Common Name
Ammannia robusta	ammannia
Arabis crucisetosa	cross-haired rockcress
Astragalus arrectus	Palouse milk-vetch
Astragalus arthurii	Arthur's milk-vetch
Astragalus cusickii var. cusickii	Cusick's milk-vetch
Bolandra oregana	Oregon bolandra
Calochortus macrocarpus var. maculosus	Nez Perce or green-banded mariposa-lily
Calyptridum roseum	rosy calyptridium
Comastoma tenellum	lapland gentian
Diplacus cusickioides	Nesom's monkey-flower
Eremothera pygmaea	dwarf evening-primrose
Erythranthe patula	stalk-leaved monkey-flower
Hackelia diffusa var. diffusa	diffuse stickseed
Lipocarpha aristulata	aristulate lipocarpha
Lomatium rollinsii	Rollin's desert-parsley
Phacelia tetramera	dwarf phacelia
Pilularia americana	American pilwort
Rorippa columbiae	Columbia cress
Rotala ramosior	lowland toothcup
Spartina pectinata	prairie cordgrass
Swertia perennis	swertia
Texosporium sancti-jacobi	woven spore lichen

Species documented in or near project area

Scientific Name	Common Name	Near Activity Units	Comments
Penstemon pennellianus	Blue Mountain penstemon	01A, 01C, 2, 3, 4, 5, 12, 12, 12C, 13, 17, 18A, 20, 22, 23, 24, 25, 26, 53, 54, 56, 58, 69, 70, 71, 120 In Griffen Peak and Chase Mountain pits Temporary road #s 1, 2, 4	Occurs in rocky areas and in dry grasslands. Most sites are on edges of units, or adjacent.
Phlox solivaga	Lonely phlox	Near Griffen Peak rock pit	Occurs in rocky areas and in dry grasslands
Ranunculus populago	Mountain buttercup	½ mile southeast of project area	Occurs in wet meadows, vernally wet swales, and around springs

Species potentially in project area, listed by habitat

Cliffs, rock outcrops, and talus	
Allium campanulatum	Dry, open areas, usually surrounded by ponderosa pine or juniper woodlands. Also in open sub alpine settings. Usually sandy soils and rocky uplands, open or shady slopes.
Allium dictuon	Dry, sparsely vegetated slopes and rocky bluffs and ridge tops.
Penstemon pennellianus	Open, gravelly and sandy slopes and ridges. Surrounding forest is dry conifer.
Phlox solivaga	Rocky basalt ridges and outcrops, in cracks in the rocks.
Lithosols and grasslands	
Achnatherum richardsonii	Sandy and gravely sites in grasslands, open forests, and sagebrush steppe.
Allium campanulatum	See above.
Allium dictuon	See above.
Erigeron davisii	Rocky ridges and slopes, basalt outcrops, sparsely vegetated openings or edges of forests.
Githopsis specularioides	Dry open slopes, shrubby areas. Potentially in vernally wet swales in dry forest also.
Penstemon pennellianus	See above.
Penstemon wilcoxii	Dry grasslands, rocky slopes, shrublands, dry open ponderosa and Douglas fir forest.
Phlox solivaga	See above.
Pyrrocoma hirta v. sonchifolia Pyrrocoma scaberula	Wheatgrass and Idaho fescue dominated grasslands. Often in deep, loamy soils. Surrounding forest is dry ponderosa pine and Douglas fir; transition between grassland and forest.
Ribes cereum var. colubrinum	Dry ponderosa pine forest and low elevation grasslands.
Silene scouleri var. scouleri	Grasslands and open timberlands, rarely montane.
Cold upland forests	
Antennaria corymbosa	Moist meadows, streamsides, moist open woods. Lodgepole pine and spruce forest.
Botrychium ascendens	Montane moist meadows, riparian zones, moist roadsides. Openings in cold forests. On the drier edges of wet meadows. Lodgepole pine or spruce forest often surrounding.
Botrychium crenulatum	
Botrychium hesperium	
Botrychium paradoxum	
Botrychium pedunculosum	
Ribes wolfii	Moist woods, meadows, moderate to sub-alpine elevations. Often with subalpine fir.
Moist upland forests	
Ribes oxyacanthoides var. irriguum	Canyons, hillsides, dry to moist mixed conifer, and ponderosa pine forest. Often along perennial and intermittent streams.
Ribes wolfii	See above.
Dry warm to hot upland forest	
Achnatherum richardsonii	See above.
Erigeron davisii	See above.
Githopsis specularioides	See above.
Isoetes minima	Seepage areas in otherwise dry forests or mountain sagebrush.
Penstemon wilcoxii	See above.
Phacelia minutissima	Moist, open places, streambanks, meadows, aspen, ephemerally moist swales. Vernally moist openings in ponderosa pine or Doug fir forest. Often with Veratrum.
Ribes cereum var. colubrinum	Dry ponderosa pine forest and low elevation grasslands.
Ribes oxyacanthoides var. irriguum	See above.
Silene scouleri var. scouleri	See above
Wetlands and riparian areas	
Antennaria corymbosa	See above.
Botrychiums (see cold forest list)	See above.
Dermatocarpon meiophyllizum	On rocks in streams within the splash zone, submerged or up to 2 meters above water's edge. Also around lake edges, and in seeps.
Isoetes minima	See above.
Juncus howellii	Springs, gravel bars, wet slopes, peatlands, moist meadows, riparian zones. Wide range of elevations.
Juncus kelloggii	Creek banks, vernal pools, seepage areas, floodplains in wet prairies, swales, pool margins. Sandy to clayey damp soils.
Leptogium burnetiae	On tree bark and mossy rocks in riparian zones. On Alnus, Picea, Salix, and Populus.
Phacelia minutissima	See above.
Ranunculus populago	Moist to wet meadows, stream terraces, riparian areas, edges of bogs. Moderate to fairly high elevations in the mountains.
Ribes oxyacanthoides var. irriguum	See above.
Spiranthes porrifolia	Wet meadows, bogs, streams, and seepage slopes.
Trifolium douglasii	Moist or mesic meadows, prairie remnants, along riparian areas along streams. In swales, along intermittent streams, and in vernally wet areas.

Appendix 3: Effects calls for sensitive plants

Scientific Name	Common Name	Effects call
Lichens		
Dermatocarpon meiophyllizum	brook lichen, streamside stippleback	MIIH
Leptogium burnetiae	Burnet's skin lichen	MIIH
Texosporium sancti-jacobi	woven spore lichen	NI
Mosses		
Scouleria marginata	marginate splash-zone moss	MIIH
Vascular Plants		
Achnatherum richardsonii	Richardson's needlegrass	MIIH
Allium campanulatum	Sierra onion	MIIH
Allium dictuon	Blue Mountain onion	MIIH
Ammannia robusta	ammannia	NI
Antennaria corymbosa	meadow pussy-toes	MIIH
Arabis crucisetosa	cross-haired rockcress	NI
Astragalus arrectus	Palouse milk-vetch	NI
Astragalus arthurii	Astragalus arthurii	NI
Astragalus cusickii var. cusickii	Cusick's milk-vetch	NI
Bolandra oregana	Oregon bolandra	NI
Botrychium ascendens	upward-lobed moonwort	MIIH
Botrychium crenulatum	crenulate moonwort	MIIH
Botrychium hesperium	western moonwort	MIIH
Botrychium lineare	slender moonwort	MIIH
Botrychium paradoxum	twin-spiked moonwort	MIIH
Botrychium pedunculosum	stalked moonwort	MIIH
Calochortus macrocarpus var. maculosus	Nez Perce or green-banded mariposa-lily	NI
Calyptridum roseum	rosy calyptridium	NI
Comastoma tenellum	Lapland gentian	NI
Diplacus cusickioides	Nesom's monkey-flower	NI
Eremothera pygmaea	dwarf evening-primrose	NI
Erigeron davisii	Davis' fleabane	MIIH
Erythranthe patula	stalk-leaved monkey-flower	NI
Githopsis specularioides	common blue-cup	MIIH
Hackelia diffusa var. diffusa	diffuse stickseed	NI
Isoetes minima	midget quillwort	MIIH
Juncus howellii	Howell's rush	MIIH
Juncus kelloggii	Kellogg's rush	MIIH
Lipocarpha aristulata	aristulate lipocarpha	NI
Lomatium rollinsii	Rollin's desert-parsley	NI
Penstemon pennellianus	Blue Mountain penstemon	MIIH
Penstemon wilcoxii	Wilcox's penstemon	MIIH
Phacelia minutissima	dwarf phacelia	MIIH
Phacelia tetramera	dwarf phacelia	NI

Scientific Name	Common Name	Effects call
Phlox solivaga	lonely phlox	MIIH
Pilularia americana	American pilwort	NI
Pinus albicaulis	whitebark pine	NE
Pyrrocoma hirta var. sonchifolia	sticky goldenweed	MIIH
Pyrrocoma scaberula	rough pyrrocoma	MIIH
Ranunculus populago	mountain buttercup	NI
Ribes cereum var. colubrinum	Colubrinum wax current	MIIH
Ribes oxyacanthoides var. irriguum	Idaho gooseberry	MIIH
Ribes wolfii	Wolf's current	MIIH
Rorippa columbiae	Columbia cress	NI
Rotala ramosior	lowland toothcup	NI
Silene scouleri var. scouleri	Scouler's catchfly	MIIH
Silene spaldingii	Spalding's catchfly	NE
Spartina pectinata	prairie cordgrass	NI
Spiranthes porrifolia	western ladie's-tresses	NI
Swertia perennis	swertia	NI
Trifolium douglasii	Douglas' clover	NI

Effects call definitions for federally listed species

Call Code	Effects Call	Definitions of effects calls
BE	Beneficial Effect	Potential activities will enhance populations and habitat. Written concurrence is required from the USFWS if a beneficial effect determination is made.
NE	No Effect	There will be no impacts, positive or negative, to listed or proposed resources. Generally, this means no listed resources will be exposed to action and its environmental consequences. Consultation with the USFWS is not required for projects that have no effect.
MA-NLAA	May affect, but not likely to adversely affect	All effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or cannot be evaluated. Discountable effects are those extremely unlikely to occur. In this case, written concurrence by the FWS is required to conclude informal consultation (50 CFR 402.13).
MA-LAA	May affect, and is likely to adversely affect	Listed resources are likely to be exposed to the action or its environmental consequences and will respond in a negative manner to the exposure. If it is determined that the project MA-LAA a listed species, formal consultation with the USFWS must be initiated (50 CFR 402.12).

Effects call definitions for sensitive species

Call Code	Effects Call	Definitions of effects calls
BI	Beneficial Impact	Projects or activities that are designed to benefit, or that measurably benefit a sensitive species
NI	No Impact	When a project or activity will have no environmental effects on habitat, individuals, a population, or a species
MIIH	May impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species	Activities or actions that have effects that are immeasurable, minor or are consistent with conservation strategies
WIFV	Will impact individuals or habitat with a consequence that the action may contribute to a trend towards Federal listing or cause a loss of viability to the population or species	Loss of individuals or habitat can be considered significant when the potential effect may be: 1. Contributing to a trend toward Federal listing (C-1 or C-2 species) 2. Results in a significantly increased risk of loss of viability to a species 3. Results in a significantly increased risk of loss of viability for a significant population